AMENDMENTS TO THE CLAIMS

1. (Original) A configuration system for configuring a process control system of a process plant, the configuration system comprising:

a configuration database to store a configuration of the process control system;

a process module stored in the configuration database, the process module comprising a plurality of process objects, each process object representing a corresponding physical entity in the process plant, the process module representing a logical unit in the process plant; and

a set of expert rules stored in the configuration database, the set of expert rules associated with the process module and adapted to be applied by an expert engine to detect at least one abnormal situation associated with the logical unit, the set of expert rules referencing information exposed by the process module.

2. (Original) A configuration system according to claim 1, wherein the process module comprises the set of expert rules.

3. (Original) A configuration system according to claim 1, wherein at least some of the process objects of the process module include simulation capabilities to simulate the corresponding physical entities.

4. (Original) A configuration system according to claim 1, further comprising an execution engine communicatively coupled to the configuration database, the execution engine configured to execute the process module and to apply the set of expert rules during operation of the process plant.

5. (Original) A configuration system according to claim 4, further comprising a workstation having a processor and a computer readable memory, the workstation communicatively coupled to the configuration database;

wherein the process module and the set of expert rules are stored in the computer readable memory;

wherein the computer readable memory has stored therein programming instructions to configure the processor to implement the execution engine.

6. (Original) A configuration system according to claim 1, wherein the expert rules are configured to cause at least some alerts of the process module to be disabled if a set of facts are detected by an expert engine.

7. (Original) A configuration system according to claim 1, wherein the expert rules are configured to cause at least one alert to be generated if a set of facts are detected by an expert engine.

8. (Original) A configuration system according to claim 1, further comprising a process graphic stored in the configuration database, the process graphic comprising a graphical representation depicting the logical unit and adapted to be displayed on a display device during execution of the process module, wherein the process graphic is configured to depict information provided by an expert engine applying the set of expert rules during operation of a process.

9. (Original) A configuration system according to claim 1, wherein the configuration database includes a library of expert rule templates.

10. (Original) A configuration system according to claim 1, wherein the configuration database is adapted to keep track of versions of the set of expert rules.

11. (Currently amended) A system for monitoring a process control system of a process plant, the system comprising:

a processor;

a computer readable memory;

a process module stored in the computer readable memory, the process module comprising a plurality of interconnected process objects, each process object representing a corresponding physical entity in the process plant, the process module representing a logical unit in the process plant, each process object having a parameter memory storage to store parameter data corresponding to the physical entity represented by the process object, wherein at least some of the process objects of the process module include simulation capabilities to simulate the corresponding physical entities;

an expert module stored in the computer readable memory, the expert module including a set of expert rules associated with the process module and adapted to be applied by an expert engine to detect at least one abnormal situation associated with the logical unit, the set of expert rules referencing parameter data of the process module, the expert module including [[a]] expert module parameters associated with evaluation of the expert rules;

a process graphic stored in the computer readable memory, the process graphic adapted to provide on a user interface a graphical depiction of the logical unit, parameter data of the process module, and parameter data of the expert module;

an execution engine stored in the computer readable memory and adapted to be executed by the processor, the execution engine to execute the process module during operation of the process plant and to display on the user interface the graphical depiction of the logical unit, the parameter data of the process module, and the parameter data of the expert module; and

an expert engine stored in the computer readable memory and adapted to be executed by the processor, the expert engine to apply the set of expert rules of the expert module.

12. (Original) A system according to claim 11, wherein the execution engine comprises the expert engine.

13. (Original) A system according to claim 11, wherein the execution engine is adapted to permit a user, during operation of the process, to select parameters of the expert module for display.

14. (Original) A system according to claim 11, wherein the expert engine is adapted to permit a user, during operation of the process, to modify the set of expert rules.

15. (Original) A system according to claim 11, wherein the expert rules are configured to cause at least some alerts of the process module to be disabled if a set of facts are detected by the expert engine.

16. (Original) A system according to claim 11, wherein the expert rules are configured to cause at least one alert to be generated if a set of facts are detected by the expert engine.

17. (Currently amended) A method to facilitate monitoring a process control system of a process plant, the method comprising:

configuring a process module, the process module comprising a plurality of interconnected process objects, each process object representing a corresponding physical entity in the process plant, the process module representing a logical unit in the process plant;

configuring an expert module, the expert module including a set of expert rules associated with the process module and adapted to be applied by an expert engine to detect at least one abnormal situation associated with the logical unit, the set of expert rules referencing parameter data of the process module, the expert module including [[a]] expert module parameters associated with evaluation of the expert rules;

configuring a process graphic, the process graphic adapted to provide on a user interface a graphical depiction of the logical unit, parameter data of the process module, and parameter data of the expert module;

storing the configured process module, the configured expert module, and the configured process graphic to a configuration database, the configuration database to store a configuration of the process control system; and

downloading the configured process module, the configured expert module, and the configured process graphic to a workstation in the process plant, the workstation adapted to implement an execution engine to execute the process module, to display the process graphic on a user interface, and to implement the expert engine during operation of the process.

18. (Original) A method according to claim 17, further comprising generating an alert in an alert system of the process control system using the expert engine during operation of the process.

19. (Original) A method according to claim 17, further comprising disabling a group of alarms associated with at least one of the process module or the expert module using the expert engine during operation of the process.

20. (Original) A method according to claim 17, further comprising permitting an operator to modify the set of expert rules via the workstation during operation of the process.